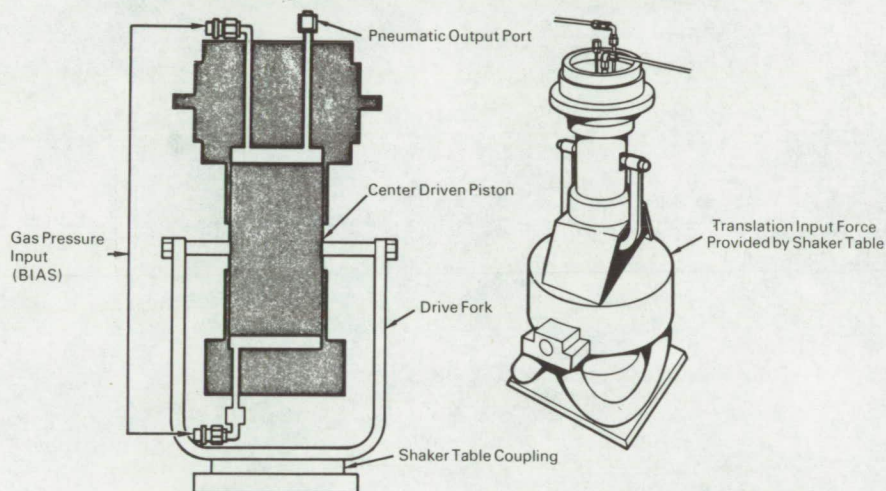


AEC-NASA TECH BRIEF



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Pneumatic Pressure Wave Generator Provides Economical, Simple Testing of Pressure Transducers



The problem:

To provide a means of testing pressure transducers and systems to determine their reliability or accuracy. Standard pressure wave generators in use have elaborate controls, consume enormous quantities of gas, and are severely limited by either pressure or frequency in range of operation.

The solution:

A testing device that utilizes the change in pressure about a bias or reference pressure level produced by displacement of a center-driven piston in a closed cylinder.

How it's done:

The pressure wave generator is pressurized to any desired static pressure level (bias pressure) and is coupled to a shaker table. The transducer or system undergoing test is connected to the output port of the generator. The frequency and amplitude of the pneumatic output of the generator are controlled by the

movement of the piston which is driven by the drive fork. The drive fork, in turn, is driven by the vibration of the shaker table. The pneumatic output of the generator is a direct function of the displacement or amplitude and the frequency of the shaker table. The generation of sinusoidal or other wave shapes may be facilitated through the operation of the shaker table drive and controls which produces the different wave shapes into the vibrations of the shaker table and thus into the pneumatic pressure wave generator.

Notes:

1. This pressure wave generator will increase the testing capabilities and function of the shaker table mechanisms commonly available in most laboratories.
2. This device can be used wherever required to test pressure transducers and systems under dynamic conditions by the use of closely controlled pneumatic pressure waves.

(continued overleaf)

3. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
AEC-NASA Space Nuclear Propulsion
Office
U.S. Atomic Energy Commission
Washington, D.C. 20545
Reference: B67-10664

Patent status:

No patent action is contemplated by AEC or NASA.

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